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*Handwritten mark resembling a stylized 'R' or 'D'.*

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/410,368      09/30/99      HAVENS

J      244/006

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HM12/0326

EXAMINER

MARSCHEL, A

ART UNIT	PAPER NUMBER
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1631

DATE MAILED:

03/26/01

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

09/410,368

Applicant(s)

Havens et al.

Examiner

Ardin Marsch I

Group Art Unit

1631



☒ Responsive to communication(s) filed on Jan 4, 2001

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1035 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claim

☒ Claim(s) 1-39 is/are pending in the application

~~Claims 40-68~~, Claim(s) 40-68 have been canceled. ~~are withdrawn from consideration.~~

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-39 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☐ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, ~~20020138~~ (1 sheet)

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

— SEE OFFICE ACTION ON THE FOLLOWING PAGES —

Applicants' election of Group I, Specie A, (claims 1039) in Paper No. 5, filed 1/4/01, is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (M.P.E.P. § 818.03(a)).

Claims 1-39 are rejected, as discussed below, under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

It is noted that the first line of claim 1 indicates that the microarray as claimed is "electronically addressable". This causes the metes and bounds of the claim to be vague and indefinite because the remainder of the claim which recites the actual contents of the microarray fails to indicate any electronic nature to the microarray, nor does it indicate any addressability. Thus, it is unclear whether a microarray that meets the limitations of lines 2-11 of claim 1 without any electronics or addressability or electronic addressability would or would not be an embodiment within the metes and bounds of claim 1. Additionally, if electronic addressability is present in the microarray of instant claim 1, what is addressed? and by what electronics? Also, what occurs if one wishes to practice electronic addressability for such an array? This same set of unclarities also exists in claims 2-5, 7-18, 20-25, 27-34, 36-38.

Claims 6, 19, 26, 35, and 39 indicate a type of potential or biasing which is electronically generated but without defining what addressing has occurred and thus are also vague and indefinite. Clarification of the claim metes and bounds is requested via clearer claim wording.

It is noted that the first line of claim 1 indicates that the microarray as claimed contains a "permeation layer". This causes the metes and bounds of the claim to be vague and indefinite because the remainder of the claim, which recites the actual contents of the microarray, fails to indicate any such permeation layer, and additionally lacks any definition of the cooperativity between such a layer and the remainder of the microarray. That is, where is the permeation layer in the microarray? It is noted that this unclarity is also present in instant claims 2-39. It is noted that claim 21 cites a "permeable polymer" in line 6, but without relating this to the permeation layer of line 1 of claim 21 and is equally vague and indefinite. It is noted that claim 28, lines 10-11, attaches "P" to a permeation layer but does not define where this is in the microarray and also therefore is vague and indefinite. Clarification of the claim metes and bounds is requested via clearer claim wording.

The phrase "including but not limited to" in claim 2 is confusing as to what is included and what is not for selections

within claim 2. Does this phrase open the selections to anything in claim 2? Is it only limited to describing options for the "alkenyl moieties"? Clarification via clearer claim wording is requested.

In claims 7-39 the entities "P'", "X'", and "R'" are cited without inclusive definitions of all of them in any claim as to their metes and bounds.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

Claims 1-4 and 13 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Heller et al. (P/N 5,632,957).

Heller et al. discloses a microarray upon which a permeation layer is prepared over the electrodes of the array as summarized in the section entitled "SUMMARY OF THE INVENTION" starting in column 4. The permeation layer with attachment chemical groups such as poly-L-lysine is disclosed in column 18, lines 5-50, which may be utilized for covalent DNA attachment. This layer is cast onto each micro-location and apparently sufficiently binds

to stay in place. The two layer sandwich as described in column 18, lines 39-44, includes a P moiety as the Nafion and poly-L-lysine which contains the X bond of the instant claims as well as a primary amine for biomolecule attachment as set forth in column 18, lines 5-10, as the R moiety of the instant claims. These disclosures anticipated the instant claims.

Claims 1-4, 7, 10, 13-17, 21-23, 28, 30, 32, and 38 are rejected under 35 U.S.C. § 102(e) as being clearly anticipated by Sundberg et al. (P/N 5,919,523).

Sundberg et al. discloses an array which contains the elements as given in the instant claims in the interpretation that the electronic addressability wording in the preamble is not a claim limitation per se in that it is not given anywhere in the instant claims as actual elements of the claimed array other than in the preamble which as noted above is unclear as to whether these are actual claim requirements or not as presently worded. Sundberg et al. clearly defines arrays as inventions therein in column 2, lines 6-9. The arrays contain permeation layers with various P-X-R entities as shown, for example, in Figure 1 wherein the silane - alkyl chain - amine layer is one P-X-R layer and the carboxyl - alkyl chain - amine layer is a second P-X-R layer given instantly as a reasonable interpretation as P'-X'-R' in the instant claims.

No claim is allowed.

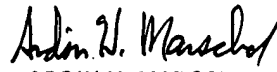
Papers related to this application may be submitted to Technical Center 1600 by facsimile transmission. Papers should be faxed to Technical Center 1600 via the PTO Fax Center located in Crystal Mall 1. The faxing of such papers must conform with the notices published in the Official Gazette, 1096 OG 30 (November 15, 1988), 1156 OG 61 (November 16, 1993), and 1157 OG 94 (December 28, 1993) (See 37 CFR § 1.6(d)). The CM1 Fax Center number is either (703)308-4242 or (703)305-3014.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ardin Marschel, Ph.D., whose telephone number is (703)308-3894. The examiner can normally be reached on Monday-Friday from 8 A.M. to 4 P.M.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Woodward, Ph.D., can be reached on (703)308-4028.

Any inquiry of a general nature or relating to the status of this application should be directed to Patent Analyst, Tina Plunkett, whose telephone number is (703)305-3524 or to the Technical Center receptionist whose telephone number is (703)308-0196.

March 23, 2001

  
ARDIN H. MARSCHEL  
PRIMARY EXAMINER